

# Tevatron BPM Upgrade

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CD Accelerator Coordination  
Meeting

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# Recent Accomplishments

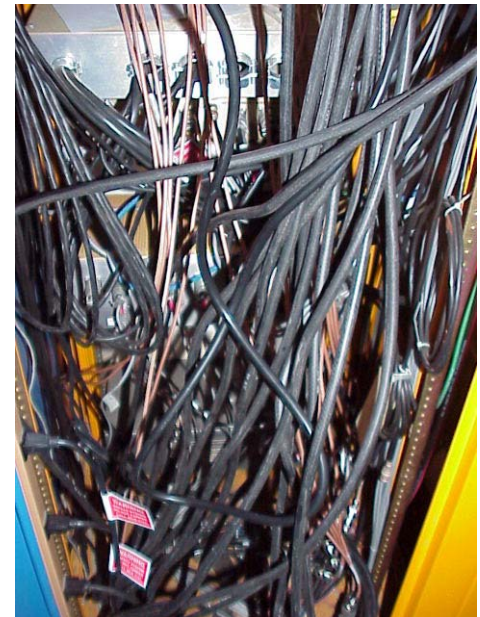
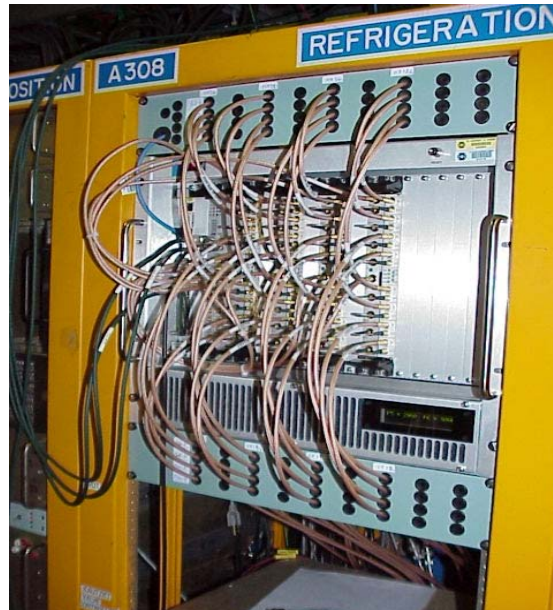
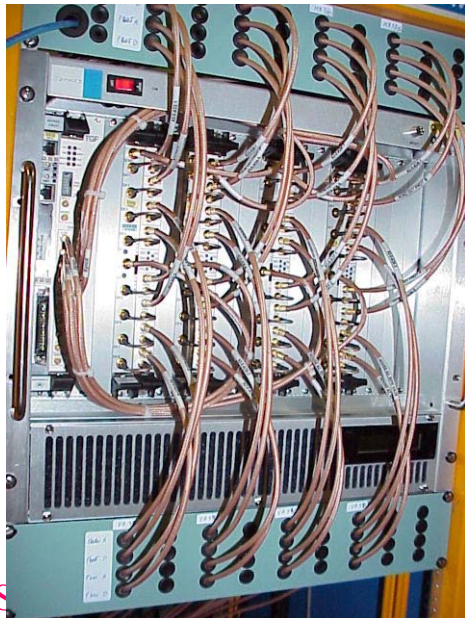
- All Echotek boards, analog filters, VME crates, MVME processors, and cables have arrived.
- Testing of the Echotek boards by Tim Kasza's group (working closely with Dehong Zhang and Mark Bowden and others) found a problem that was fixed by Echotek (FPGA firmware update).
- Some analog filter phase mis-matches have been found and are being pursued.
- VME crate monitoring will use a more or less standard Accelerator Division solution.
- Our testing identified a few bad cables that will be replaced by the vendor.

# Recent Accomplishments

- **Timing and Filter Boards:**
  - Bids were received, evaluated and the final PO's placed.
  - Site visits have occurred - both winners are local vendors.
  - Expect to see production boards in early January, 2005.
  - This is good progress since the last report.

## Recent Accomplishments

- A3 system was constructed in FCC3 and moved to A3 on November 23.
- Learned a bit about cables, connectors, etc. in the process.



# Schedule

- Commissioning

- Proposal for commissioning order:

- A3,B3,C3,D3,E3,F2,B0,D0,A2,B2,C2,D2,E2,A4,  
B4,C4,D4,E4,A1,B1,C1,D1,E1,A0,F3,F4,F1

- Start with A3 (expect it to take about a month).

- Overall

- Some schedule change may occur depending on how the A3 crate comes up and how quickly the production filter and timing boards arrive.

## Concerns

- Delivery schedule of filter and timing boards.
  - The boards are late - we need to keep track of the fabrication very closely.
    - Luckily both vendors are local and we can visit them easily.
  - May require some scrambling to create "temporary" filter boards for B3,C3,D3.

# Concerns

- Software

- There is a fair amount of software in and related to the project: front-end, online, calibration, diagnostics, offline, applications.
- There are many issues left to resolve and some functionality left to complete.
- This represents a major amount of effort for the project in the coming months.
  - New effort - calibrations. Marc Mengel has been asked to help here taking advantage of his experience and coding for the Recycler BPM.
- Application code to use the data is being and will be developed primarily by the Tevatron Department physicists.

## Summary

- We continue to move forward thanks to a great deal of effort from many people:
  - About 10 FTE of real work.
  - About 30 people are involved.
- From the latest project file:
  - Total M&S = \$1.76M
    - FY05 budget = \$125K (timing and filter boards + unexpected expenses)
  - Total Effort = \$1.30M (14.1 FTE)
    - This is time-worked only (no vacation or other OPTO, no overheads)



## Main Injector BPMs

- A topic of some interest is the MI BPM upgrade project.
- Soon we (CD+AD) should formulate a project, especially including the personnel available, areas of responsibility, project organization, etc.
- The result of the above could range from extremely minimal CD involvement up to a fairly large participation by CD, as in the TeV BPM project.
- December is probably a good month to engage in the necessary discussions.